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55132 7590 04/16/2009

EVAN LAW GROUP LLC
AND THE BOEING COMPANY
600 West Jackson Blvd.
Suite 625
CHICAGO, IL 60661

EXAMINER	
COUGHLAN, PETER D	
ART UNIT	PAPER NUMBER
2129	

DATE MAILED: 04/16/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,032	04/14/2004	Darin P. Haudrich	BOE01-042-US	7376

TITLE OF INVENTION: NEURAL NETWORK FOR AEROELASTIC ANALYSIS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	07/16/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

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10/825,032	04/14/2004	Darin P. Haudrich	BOE01-042-US	7376

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nonprovisional	NO	$1510	$300	$0	$1810	07/16/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
COUGHLAN, PETER D	2129	706-039000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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COUGHLAN, PETER D	
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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 314 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 314 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/825,032	HAUDRICH ET AL.	
	Examiner	Art Unit	
	PETER COUGHLAN	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/19/2009*.

2. ☒ The allowed claim(s) is/are *1-13 and 17-50*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Examiner's Amendments / Reasons for Allowance

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In the Claims

The following claims have been amended as follows:

Claim 18 is to read; The computer-implemented method of claim 17, further comprising the processor determining an accuracy of the aeroelastic flutter characteristics determined using the trained neural network.

Claim 19 is to read; The computer-implemented method of claim 17, further comprising: the processor determining a weight vector in the trained neural network; and the processor determining a bias value in the trained neural network.

Claim 20 is to read; The computer-implemented method of claim 19, wherein the processor determining the aeroelastic flutter characteristics comprises: the processor multiplying received input parameters by the weight vector to generate weighted parameters; the processor summing the weighted parameters and the bias value to

generate a summed input; and the processor applying the summed input to a transfer function associated with a neuron in the trained neural network.

Claim 22 is to read; The computer-implemented method of claim 21, wherein the processor receiving at least one input parameter comprises: the processor receiving a weight; and the processor receiving location of the weight on the aircraft structure.

Claim 23 is to read; The computer-implemented method of claim 21, wherein the processor applying the predetermined neural network transfer function comprises: the processor multiplying the at least one input parameter with a weight vector to produce at least one weighted input parameter; the processor summing together the at least one weighted input parameter and a bias value to generate a summed value; and the processor applying a neuron transfer function to the summed value.

Claim 24 is to read; The computer-implemented method of claim 21, wherein the aeroelastic flutter analysis result comprises the flutter speed at a damping value.

Claim 25 is to read; The computer-implemented method of claim 21, wherein the aeroelastic flutter analysis result comprises the flutter frequency at a damping value.

Claim 26 is to read; The computer-implemented method of claim 21, wherein the aeroelastic flutter analysis result comprises the flutter speed and the associated flutter frequency at a damping value.

Claim 27 is to read; The computer-implemented method of claim 21, wherein the aeroelastic flutter analysis result comprises a contour plot of store loadings.

Claim 36 is to read; The computer-implemented method of claim 17, wherein the structure is an aircraft.

Claim 37 is to read; The computer-implemented method of claim 36, wherein the step of the processor determining aeroelastic flutter characteristics of the structure based in part on the trained neural network is performed after the completed repair is completed and before the aircraft is used for flight.

Claim 38 is to read; The computer-implemented method of claim 17, wherein the structure is at least one of a stabilator, a wing, an elevator, a canard, an aileron, a flap, a spoiler, a stabilizer, a tail section, and a rudder of *an* aircraft.

Claim 39 is to read; The computer-implemented method of claim 17, wherein the neural network is a feed forward neural network.

Claim 40 is to read; The computer-implemented method of claim 17, wherein the step of the processor determining input parameters further comprises: the processor determining a weight; and the processor determining a location of the weight relating to the one or more completed repairs performed on the structure.

Claim 41 is to read; The computer-implemented method of claim 40, wherein the weight and the location of the weight relating to the one or more completed repairs performed on the structure exceed a predetermined category of approved repair parameters.

Claim 42 is to read; The computer-implemented method of claim 21, wherein the step of the processor applying the predetermined neural network transfer function to the at least one input parameter to generate the aeroelastic flutter analysis result is performed after the completed repair is completed and before the aircraft structure is used in flight.

3. Authorization for this Examiner's Amendment was given in by a fax from Mr. Timothy K. Klintworth (Reg. No. 46162) on 4/8/2009.

The following in an Examiner's statement for reasons for allowance:

Claims are considered allowable since when reading the claims in light of the specification, as per MPEP §2111.01 or Toro Co. v. White Consolidated Industries Inc., 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), none of the references

of record alone or in combination disclose or suggest the combination of limitations specified in independent claims. The cited art taken alone or in combination fails to teach the claimed invention of:

An aeroelastic analysis system for analyzing flutter relating to a completed repair of a structure, the system comprising: an input module configured to receive one or more input parameters associated with aeroelastic characteristics of a structure the one or more input parameters relating to a completed repair of the structure a neural network module coupled to the input module and configured to generate a transformation of the one or more input parameters to produce at least one aeroelastic flutter analysis result the transformation based in part on a trained neural network wherein the at least one aeroelastic flutter analysis result comprises at least one of a flutter frequency and a flutter speed for determining whether the aeroelastic flutter characteristics of the structure with the completed repair are acceptable. (Claim 1)

A computer-implemented method of performing aeroelastic flutter analysis to determine the aeroelastic flutter characteristics from one or more completed repairs performed on a structure, the method comprising: a processor determining input parameters relating to one or more completed repairs performed on a structure; the processor determining a training set of characteristic 1/0 pairs; the processor generating a neural network; the processor training the neural network using the training set to generate a trained neural network; the processor determining aeroelastic flutter characteristics of the structure based in part on the trained neural network in order to determine at least one of a flutter frequency and a flutter speed of the structure with the

one or more completed repairs; and the processor determining whether the aeroelastic flutter characteristics of the structure with the one or more completed repairs are acceptable. (Claim 17)

A computer-implemented method of performing aeroelastic flutter analysis, the method comprising; a processor receiving at least one input parameter related to a completed repair of an aircraft structure; the processor applying a predetermined neural network transfer function to the at least one input parameter to generate an aeroelastic flutter analysis result comprising at least one of a flutter frequency and a flutter speed related to the completed repair of the aircraft structure, wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight; and the processor outputting the result. (Claim 21)

One or more processor instructions stored in one or more storage devices, the one or more processor readable instructions, when executed by a processor instructing the processor to perform the method comprising: receiving at least one input parameter related to a completed repair of an aircraft structure applying a predetermined neural network transfer function to the at least one input parameter to generate an aeroelastic flutter analysis result comprising at least one of a flutter frequency and a flutter speed related to the completed repair of the structure wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight. (Claim 28)

One or more processor readable instructions stored in one or more storage devices, the one or more processor readable instructions, when executed by a processor instructing the processor to perform the method comprising; receiving a mass input related to a completed repair; receiving a location of the mass on an aircraft structure multiplying the mass input and location with a weight vector to produce weighted input parameters; summing together weighted input parameters and a bias value to generate a summed value; applying a neuron transfer function to the summed value to generate an aeroelastic flutter analysis result comprising at least one of a flutter frequency and a flutter speed, wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight; and outputting the aeroelastic flutter analysis result. (Claim 29)

An aeroelastic flutter analysis system, the system comprising: means for receiving input parameters relating to a completed repair of an aircraft structure, means for applying a neural network transfer function to the input parameters to generate an aeroelastic flutter analysis result, comprising at least one of a flutter frequency and a flutter speed wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight; and means for outputting the result. (Claim 30)

4. Claims 1-13, 17-50 are allowed.

5. The closest prior art teaches ('Next Generation Structural Heath Monitoring and its Integration into Aircraft Design': referred to as **Boller)**

An aeroelastic analysis system for analyzing flutter relating to a completed repair of a structure, the system comprising: an input module configured to receive one or more input parameters associated with aeroelastic characteristics of a structure. (**Boller,** Fig. 14, p396, C2:19-34, abstract; 'Input module' of applicant is disclosed by the output of the sensors in Fig. 14 of Boller. 'Aeroelastic characteristics' of applicant is equivalent to 'aeroelasticity' of Boller.) and a neural network module coupled to the input module (**Boller,** Fig. 14, p396, C2:19-34, abstract; Boller uses sensors which produce data and neural networks to analyze data, then it is inherent that there exists some 'input module' which take data from the sensor to input into the neural network of Boller.) and configured to generate a transformation of the one or more input parameters to produce at least one aeroelastic flutter analysis result. (**Boller,** Fig. 14, p396, C2:19-34, abstract; 'Aeroelastic analysis' of applicant is equivalent to 'aeroelasticity' of Boller.) (Claim 1)

Complementary art teaches ('Elements of Artificial Neural Networks': referred to as **Mehrotra)** The transformation based in part on a trained neural network. (**Mehrotra,** p103:1 through p104:16; 'Trained neural network' of applicant is accomplished by 'back propagation' of Mehrotra.) (Claim 1)

The processor determining a training set of characteristic I/O pairs (**Mehrotra,** p103:1 through p104:16; 'Training set of characteristic I/O pairs' of applicant is

equivalent to 'back propagation' of Mehrotra.); the processor generating a neural network. (**Mehrotra,** Fig 4.20; 'Generating a neural network' of applicant is disclosed by the illustration of the tiling algorithm of Mehrotra.) (Claim 17)

The processor applying a predetermined neural network transfer function. (**Mehrotra,** p11, Figure 1.5; The 'transfer function' of applicant is equivalent to '$f(w_1x_1 + \ldots + w_nx_n)$' of Mehrotra.) (Claim 21)

Applying a predetermined neural network transfer function. (**Mehrotra,** p11, Figure 1.5; The 'transfer function' of applicant is equivalent to '$f(w_1x_1 + \ldots + w_nx_n)$' of Mehrotra.) (Claim 28)

Multiplying the mass input and location with a weight vector to produce weighted input parameters (**Mehrotra,** p11, Figure 1.5; The 'Multiplying the mass input ... with a weight vector' of applicant is the multiplication of each x_is and w_is in node 'f' of Mehrotra.); summing together weighted input parameters and a bias value to generate a summed value (**Mehrotra,** p11, Figure 1.5; The 'summing' of applicant is the summation of the products of all the x_is and w_is in node 'f' of Mehrotra.); applying a neuron transfer function. (**Mehrotra,** p11, Figure 1.5; The 'transfer function' of applicant is equivalent to '$f(w_1x_1 + \ldots + w_nx_n)$' of Mehrotra.) (Claim 29)

Means for applying a neural network transfer function. (**Mehrotra,** p11, Figure 1.5; The 'transfer function' of applicant is equivalent to '$f(w_1x_1 + \ldots + w_nx_n)$' of Mehrotra.) (Claim 30)

Complementary art teaches ('Integrated Decision Support for Aviation Safety Inspectors', referred to as **Luxhoj)** the one or more input parameters relating to a completed repair of the structure. **(Luxhoj,** p382:1-24; 'Completed repair' of applicant is equivalent to 'repaired structures' of Luxhoj.) (Claim 1)

The processor training the neural network using the training set to generate a trained neural network. **(Luxhoj,** p386:1 through p387:16; 'Trained neural network' of applicant is disclosed by having 'training sets of data patterns' of Luxhoj.) (Claim 17)

The processor outputting the result. **(Luxhoj,** p390:18 through p391:6; 'Outputting the results' of applicant is equivalent to 'output values of a PNN' of Luxhoj.) (Claim 21)

Outputting the aeroelastic flutter analysis result. **(Luxhoj,** p390:18 through p391:6; 'Outputting' of applicant is equivalent to 'output values of a PNN' of Luxhoj.) (Claim 29)

Means for outputting the result. **(Luxhoj,** p390:18 through p391:6; 'Outputting the results' of applicant is equivalent to 'output values of a PNN' of Luxhoj.) (Claim 30)

Complementary art teaches ('Small Business Innovation Research to Support Aging Aircraft', referred to as **NMAB-497)** a computer implemented method of performing aeroelastic flutter analysis to determine the aeroelastic flutter characteristics from one or more completed repairs performed on a structure, the method comprising: a processor determining input parameters relating to one or more completed repairs

performed on a structure. (**NMAB-497,** p11:8-25; 'Input parameters' of applicant is illustrated by 'materials and processes' of NMAB-497.) (Claim 17)

A computer implemented method of performing aeroelastic flutter analysis, the method comprising: a processor receiving at least one input parameter related to a completed repair of an aircraft structure. (**NMAB-497,** p11:8-25; 'Input parameters' of applicant is illustrated by 'materials and processes' of NMAB-497.) (Claim 21)

Receiving at least one input parameter related to a completed repair of an aircraft structure.(**NMAB-497,** p11:8-25; 'Input parameters' of applicant is illustrated by 'materials and processes' of NMAB-497.) (Claim 28)

Receiving a mass input related to a completed repair; receiving a location of the mass on an aircraft structure. (**NMAB-497,** p11:8-25; 'Weight and location on the structure' of applicant is illustrated by 'materials and processes' of NMAB-497. It is the Examiner's opinion that one skilled within the art would understand that both the location of the repair and the mass of the materials used for the repair is critical information for analysis of the repair. This is due to following the repair both aerodynamics and the center of gravity of the aircraft can be altered.) (Claim 29)

Means for receiving input parameters relating to a completed repair of an aircraft structure. (**NMAB-497,** p11:8-25; 'Input parameters' of applicant is illustrated by 'materials and processes' of NMAB-497.) (Claim 30)

6. The references either by themselves or in combination fails to teach wherein the at least one aeroelastic flutter analysis result comprises at least one of a flutter frequency and a flutter speed for determining whether the aeroelastic flutter characteristics of the structure with the completed repair are acceptable. (Claim 1)

The processor determining aeroelastic flutter characteristics of the structure based in part on the trained neural network in order to determine at least one of a flutter frequency and a flutter speed of the structure with one or more completed repairs; determining whether the aeroelastic flutter characteristics of the structure with the one or more completed repairs are acceptable. (Claim 17)

The at least one input parameter to generate an aeroelastic flutter analysis result comprising at least one of a flutter frequency and a flutter speed related to the completed repair of the aircraft structure wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight. (Claim 21)

The at least one input parameter to generate an aeroelastic flutter analysis result comprising at least one of a flutter frequency and a flutter speed related to the completed repair of the structure wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight. (Claim 28)

The summed value to generate an aeroelastic flutter analysis result comprising at least one of a flutter frequency and a flutter speed wherein the aeroelastic flutter

analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight (Claim 29)

The input parameters to generate an aeroelastic flutter analysis result, comprising at least one of a flutter frequency and a flutter speed wherein the aeroelastic flutter analysis result is for determining whether the aircraft structure with the completed repair is acceptable for flight (Claim 30)

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Peter Coughlan whose telephone number is (571) 272-5990, Monday through Friday from 7:15 a.m to 3:45 p.m. or contact the Supervisor Mr. David Vincent at (5710 272-3080.

/P. C./

Examiner, Art Unit 2129

Peter Coughlan

4/6/2009

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129